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EXAMINER	
BHAT, NARAYAN KAMESHWAR	
ART UNIT	PAPER NUMBER
1634	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,208	GUMBRECHT ET AL.	
	Examiner	Art Unit	
	NARAYAN K. BHAT	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 5-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 5-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 23, 2008 has been entered.

Status of the Claims

2. This action is in response to papers filed on December 23, 2008.

3. Claim 1 was amended. Claim 4 was cancelled.

4. Applicant's arguments filed on December 23, 2008 have been thoroughly reviewed and are addressed following claim rejections.

5. Claims 1 and 5-15 are pending in this application and are under examination.

Priority

6. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d). The certified copy has been filed in parent Application No. DE 102 598 21.5, filed on December 19, 2002.

Note

7. In view of the claimed priority to application DE 102 598 21.5 filed in Germany

and certified English translation of the application, the effective filing date for the instant claims is December 19, 2002.

Zhou et al reference is withdrawn in view of the effective filing date of the instant application.

Amendments to Claims

8. Amendments to the claim 1 have been reviewed and entered.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 5-6 and 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albers et al (WO 00/62048, published Oct. 19, 2000) in view of Johnson et al (USPN 6,372,813 issued Apr. 16, 2002).The WIPO document cited was not published in English. The US equivalent USPN 7,208,077 is deemed an English translation. The content of the WO 00/62048 is deemed to be identical to the USPN 7,208,077, because of the 371 status of the '077 patent.

Note: Claims are interpreted based on structural components recited in the claim (MPEP 2114).

Claim 1 recites following structural components: a) a flat carrier, b) a hydrophilic reaction layer, c) a microelectrode arrangement partially embedded in a hydrophilic reaction layer for detecting binding element and d) an array of spots containing catcher molecules distributed three dimensionally,.

Regarding structural component 'a', Albers et al teaches a DNA chip comprising a flat carrier (Fig. 1a, # 1, column 5, lines 37-38).

Regarding structural component 'b', Albers et al teaches a hydrogel (column 16, lines 18), which are hydrophilic as defined by instant claim 9.

Regarding structural component 'c', Albers et al teaches a microelectrode arrangement in an array position (Fig. 1a, electrode # 3a and 3a', array position # 4, column 9, lines 18-20) for detecting binding events between the catcher molecules and target molecules (Abstract, column 16, lines 14-22). Albers et al also teaches that the electrodes are embedded in a hydrogel, i.e., hydrophilic reaction layer (column 16, lines 14-18).

Regarding structural component 'd', Albers et al teaches affinity binding molecules (i.e., catcher molecules) are incorporated into gel layer covering the microelectrode and further teaches that the microelectrodes are arranged in an array format (Fig. 1d, electrodes # 3a, column 16, lines 5-8), which encompasses array of spots containing catcher molecules and each spot being assigned to a microelectrode arrangement. Albers et al also teaches that catcher molecules incorporated in the gel are permeable to both targets and reagents (column 15, lines 21-27 and column 16, lines 5-8), which encompasses that the immobilized catcher molecules are distributed three- dimensionally.

Albers et al also teaches that the electrode has a width of 1 micrometer and the spacing of 0.9 micrometer (column 26, lines 35-37) and covered with hydrogel (column 16, line 18), but are silent about the reaction layer thickness range of 2 um to 10 um.

Regarding claim 5, Albers et al teaches an interdigital electrode arrangement comprising two annular ultra microelectrodes (Fig. 1c, electrode # 3a and 3a') and a connecting path (Fig. 1c, # 6) on a flat carrier (Fig. 1c, # 1s). Albers et al also teaches a potentiostat (Fig. 6, # 34) and microcontroller/PC (Fig. 6), thus teaching the interdigital electrode arrangement and system. Instant specification defines a 2-pole electrode arrangement as two electrodes on a flat carrier forming an interdigital structure connected to one another by connecting conductor (i.e., connecting path, instant specification paragraph 0025). The interdigital electrode arrangement system of Albers et al is reasonably interpreted as a two-pole system of the instant claim. Albers et al are

silent about are silent about the reaction layer having a thickness of approximately 3 um.

Regarding claim 6, Albers et al teaches an interdigital electrode arrangement comprising two ultra microelectrodes (Fig. 2c, electrodes # 3, 3') and pair of auxiliary electrodes (Fig. 2a, auxiliary electrodes – # 3b, 3c, column 8, lines 35-65), and potentiostat (Fig. 6, # 34) and microcontroller/PC (Fig. 6), thus teaching the interdigital electrode arrangement and system. Albers et al also teaches that ultra microelectrodes are sensor electrodes (column 5, lines 15-25) and auxiliary electrodes are voltage electrodes (column 23, lines 30-31). Instant specification defines a 4-pole electrode arrangement as two current electrodes and two voltage electrodes (paragraph 0037). The interdigital electrode arrangement system comprising sensor and voltage electrodes of Albers et al is reasonably interpreted as a 4-pole system of the instant claim. Albers et al are silent about are silent about the reaction layer having a thickness of approximately 7 um.

Regarding claim 8, Albers et al teaches that catcher molecules are incorporated into the gel (column 16, line 5) but are silent about reaction layer containing coupling groups for the covalent binding of catcher molecules.

Regarding claim 9, Albers et al teaches that the reaction layer is hydrogel (column 16, lines 14-18).

Regarding claim 10, Albers et al teaches a hydrogel, but are silent about hydrogel comprising <u>one of</u> maleic anhydride and glycidyl methacrylate.

Regarding claim 11, Albers et al teaches that the electrode arrangement is an interdigital electrode arrangement (Fig. 1, column 7, lines 39-41).

Regarding claim 12, Albers et al teaches an interdigital electrode arrangement comprising two annular ultra microelectrodes (Fig. 1c, electrode # 3a and 3a') and a connecting path (Fig. 1c, # 6) on a flat carrier (Fig. 1c, # 1s). Albers et al also teaches a potentiostat (Fig. 6, # 34) and microcontroller/PC (Fig. 6), thus teaching the interdigital electrode arrangement and system. Instant specification defines a 2-pole electrode arrangement as two electrodes on a flat carrier forming an interdigital structure connected to one another by connecting conductor (i.e., connecting path, instant specification paragraph 0025). The interdigital electrode arrangement system of Albers et al is reasonably interpreted as a two-pole system of the instant claim.

Regarding claim 13, Albers et al teaches an interdigital electrode arrangement comprising two ultra microelectrodes (Fig. 2c, electrodes # 3, 3') and pair of auxiliary electrodes (Fig. 2a, auxiliary electrodes – # 3b, 3c, column 8, lines 35-65), and potentiostat (Fig. 6, # 34) and microcontroller/PC (Fig. 6), thus teaching the interdigital electrode arrangement and system. Albers et al also teaches that ultra microelectrodes are sensor electrodes (column 5, lines 15-25) and auxiliary electrodes are voltage electrodes (column 23, lines 30-31). Instant specification defines a 4-pole electrode arrangement as two current electrodes and two voltage electrodes (paragraph 0037). The interdigital electrode arrangement system comprising sensor and voltage electrodes of Albers et al is reasonably interpreted as a 4-pole system of the instant claim.

Regarding claim 14, Albers et al teaches a DNA chip that includes a planar substrate, i.e., flat carrier (Fig. 1a, # 1, column 5, line 37), which includes a silicon substrate, i.e., semiconductor layer (Fig. 1d, # 1s, column 9, lines 30-31) and an insulating layer connected thereto (Fig. 1d, # 2, column 9, line 30), the insulating layer carrying the electrode arrangement (Fig. 1d, electrodes # 3a and 3a'). Albers et al teaches that catcher molecules incorporated in to the gel in the volume compartment of the electrode (Fig. 1d, side wall # 8, electrode 3 3a, column 15, lines 21-27 and column 16, lines 5-8). Albers et al also teaches that an insulating layer is between the electrode and the semiconductor layer (Fig. 1d, Semiconductor layer # 1s, Insulating layer # 7, column 10, line 33), thus teaching gel, i.e., reaction layer is remote form the semiconductor layer.

Regarding claim 15, Albers et al teaches that the semiconductor layer is a silicon layer (Fig. 1d, # 1s, column 9, lines 30-31).

As described above, regarding claims 1 and 5-6, Albers et al are silent about the reaction layer thickness.

Regarding claim 8, Albers et al are silent about reaction layer containing coupling groups for the covalent binding of catcher molecules.

Regarding claim 10, Albers et al are silent about acrylamide based hydrogel includes one of maleic anhydride or glycidyl methacrylate.

However, the reaction layer composition, coupling groups for covalent binding of catcher molecules and thickness were known in the art at the time of the claimed invention was made as taught by Johnson et al.

Johnson et al teaches a biochip comprising a polymer hydrogel arrays, wherein thickness of the hydrogel layer (i.e., reaction layer) is between about 1um and about 40 um or preferably between about 3 and 30 um and optimally about 5 um (column 5, lines 31-37). The thickness of hydrogel layer (i.e., reaction layer) of 5 um is encompassed by the thickness between 2 um to 10 um or thickness of approximately 3 or 7 um as claimed. Johnson et al also teaches that the acrylamide based radical cross-linkable hydrogel includes glycidyl methacrylate (column 13, lines 23-26). Johnson et al also teaches that reaction layer comprises either maleimide (Fig. 3, column 3, lines 53-57) or acrylate (Fig. 4, column 3, lines 58-61) coupling groups for the covalent binding of DNA molecules (i.e., catcher molecules, column 16, lines 59-65).

Johnson et al also teaches that the hydrogel pads are easy to produce, economical, reduces the biochip manufacturing cost, enhances the throughput and cross-linking of the hydrogel and attachment of biomolecules are done in a single step (column 3, lines 19-25 and 37-44).

It would have been prima facie obvious to one having ordinary skill in the art at the time the invention was made to modify the reaction layer of Albers et al with hydrogel of varying thickness of Johnson et al with a reasonable expectation of success.

An artisan would have been motivated to modify with the expected benefit of having a hydrogel pads that are easy to produce, economical, which reduces the biochip manufacturing cost, enhances the throughput and performing cross-linking of

the hydrogel and attachment of biomolecules in a single step as taught by Johnson et al (column 3, lines 19-25 and 37-44).

12. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albers et al (WO 00/62048, published Oct. 19, 2000) in view of Johnson et al (USPN 6,372,813 issued Apr. 16, 2002) as applied to claim 1 above and further in view of Valint et al (USPG PUB NO. 2002/0102415 published Aug. 1, 2002).

Claim 7 is dependent from claim 1. Teachings of Albers et al and Johnson et al regarding claim 1 are described above in section 11.

Regarding claim 7, Albers et al teaches that biochip comprising hydrogel is used at 40^0 C (column 30, lines 65-67). Albers et al and Johnson et al are silent about thermal stability. However, thermal stability of hydrogel was known in the art at the time of the claimed invention was made as taught by Valint et al.

Valint et al teaches a hydrogel polymer that is resistant to heat up to 90C, i.e., approximately 95C (paragraph 0217). Valint et al further teaches that hydrogel having thermal stability is sterilized easily using conventional autoclave without changes in its property (paragraph 0152, Table 13).

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to modify the hydrogel of Albers et al and Johnson et al with the thermally stable hydrogel of Valint et al with a reasonable expectation of success.

An artisan would have been motivated to modify the hydrogel of Albers et al and Johnson et al with the expected benefit of sterilizing hydrogel using conventional autoclave, still retaining its property as taught by Valint et al (paragraph 0152).

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1 and 5-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/539,817 in view of Johnson et al (USPN 6,372,813 issued Apr. 16, 2002) and Valint et al (USPG PUB NO. 2002/0102415 published Aug. 1, 2002). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

Regarding instant claim 1, claims 1, 8-10 and 17 of the '817 copending application are drawn to a DNA chip comprising a carrier, a microarray of spots arranged on the carrier, containing immobilized catcher molecules, each spot containing a thin-film four –pole system configured to measuring binding events between the catcher molecule and target analytes. Claims 8-10 and 17of the '817 copending application are further drawn to thin-film microelectrode system embedded in a hydrophilic reaction layer having thicknesses the range of 1L to 5L, L being the sum of electrode width and electrode spacing with a reaction layer thickness of less than 100 um.

Claims of '817 are not drawn to the reaction layer having thickness between 2 um and 10 um. However, as described above in section 11, Johnson et al teaches a biochip comprising a polymer hydrogel arrays, wherein thickness of the hydrogel, i.e., reaction layer is between about 1 and about 40 um or preferably between about 3 and 30 um and optimally about 5 um (column 5, lines 31-37), which encompasses the thickness between 2 um to 10 um.

It would have been prima facie obvious to one having ordinary skill in the art at the time the invention was made to modify the reaction layer of claims of copending '817 claims with hydrogel of varying thickness of Johnson et al with the expected benefit of having a hydrogel pads that are easy to produce, economical, which reduces the biochip manufacturing cost, enhances the throughput and performing cross-linking of the hydrogel and attachment of biomolecules in a single step as taught by Johnson et al (column 3, lines 19-25 and 37-44).

As described above in sections 11 and 12, additional limitations of dependent claims 5-15 are taught by Johnson et al and Valint et al. Hence, dependent claims 5-15 of the instant application are obvious for the same reasons as described for instant claim 1. Therefore dependent claims 5-15 are obvious over claims 1-18 of the '817 copending application in view of Johnson et al and Valint et al.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1 and 5-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-15 and 19 of copending Application No. 10/539,437 in view of Albers et al (WO 00/62048, published Oct. 19, 2000), Johnson et al (USPN 6,372,813 issued Apr. 16, 2002) and further in view of Valint et al (USPG PUB NO. 2002/0102415 published Aug. 1, 2002).

Regarding instant claim 1, claims 11 and 15 of the '437 copending application are drawn to a DNA chip comprising a carrier, an array of spots arranged on the carrier comprising microelectrodes and further drawn to array of spots are covered by the hydrophilic reaction layer. Claims of '437 are not drawn to the reaction layer having thickness between 2 um and 10 um and catcher molecules on the microelectrode arrangement. However, as described above in section 11, Albers et al teaches microelectrode arrangement with catcher molecules for detection of target molecules (column 16, lines 5-22). Johnson et al teaches a biochip comprising a polymer hydrogel arrays, wherein thickness of the hydrogel, i.e., reaction layer is between about 1 and

about 40 um or preferably between about 3 and 30 um and optimally about 5 um (column 5, lines 31-37), which encompasses the thickness between 2 um to 10 um.

It would have been prima facie obvious to one having ordinary skill in the art at the time the invention was made to modify the reaction layer of claims of copending '437 claims in view of Albers et al with hydrogel of varying thickness of Johnson et al with a reasonable expectation of success with the expected benefit of having a hydrogel pads that are easy to produce, economical, which reduces the biochip manufacturing cost, enhances the throughput and performing cross-linking of the hydrogel and attachment of biomolecules in a single step as taught by Johnson et al (column 3, lines 19-25 and 37-44).

As described above in sections 11 and 12, additional limitations of dependent claims 5-15 are taught by Albers et al, Johnson et al and Valint et al. Hence, dependent claims 5-15 of the instant application are obvious for the same reasons as described for instant claim 1. Therefore dependent claims 5-15 are obvious over claims 11-15 and 19 of the '437 copending application in view of Albers et al, Johnson et al and Valint et al.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to remarks from the Applicants

Zhou '339 Publication

16. In view of the claimed priority to application DE 102 598 21.5 filed in Germany and the effective filing date for the instant application being December 19, 2002, Zhou

et al ('339 publication) is withdrawn, thus excluded as an art (Remarks, pg. 7, paragraphs 3 and 4).

Claim Rejections under 35 U.S.C. § 103(a)

17. Applicant's arguments with respect to teachings of Albers et al in view of Cote et al have been considered but are moot in view of withdrawn rejections and new grounds of rejection set forth in this office action (Remarks, pg. 8, paragraphs 2-4, pg. 9, paragraph 1-2). Applicant's argument regarding cited art not teaching hydrophilic reaction layer having a thickness between 2 um and 10um is also moot, because as described above in section 11, Johnson et al teaches the hydrophilic reaction layer having a thickness between 2 um and 10um.

Applicant's argument with respect to teachings of Albers et al, Cote et al, Zhou et al and Valint et al have been considered but are moot in view of withdrawn rejections and new grounds of rejection set forth in this office action (Remarks, pg. 9, paragraphs 5-6, pg. 9, paragraph 1-2). Furthermore, Applicants have not traversed the teachings, suggestions and motivation of Valint et al for incorporating thermally stable hydrogel in the biochip of Albers et al and therefore arguments are not persuasive.

Double Patenting

18. It is noted that Applicants have requested that ODP rejections be held in abeyance until allowable subject matter is identified in the instant application or the copending '817 application. The provisional obviousness-type double patenting rejection of instant claims 1 and 5-15 over claims 1-18 of copending Application No. 10/539,817 are maintained (Remarks, pg. 10, paragraphs 3-4).

Conclusion

19. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Narayan K. Bhat whose telephone number is (571)-272-5540. The examiner can normally be reached on 8.30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram R. Shukla can be reached on (571)-272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Narayan K. Bhat/

Examiner, Art Unit 1634

/BJ Forman/

Primary Examiner, Art Unit 1634